

BLACK SCALE OF LILY BULBS

E. K. Sobers

INTRODUCTION.--Black scale of Easter lily (*Lilium longiflorum* Thunb.) bulbs was found in the United States for the first time in 1937. Commercial bulb growers in several southern Louisiana parishes experienced heavy losses because the bulbs, blackened by disease, were unsalable. Although the disease was reported from Bermuda in 1895, its cause remained unknown until 1944, when Plakidas (1) described *Colletotrichum lilii* Flak, as the causal organism.

HOST RANGE.--Results of pathogenicity tests conducted in 1962 (3), revealed that bulbs of Creole, Georgia (Fig. 1), Croft, and Estate Easter lilies were susceptible to *C. lilii*. The fungus was also found to be pathogenic to bulbs of *L. amabile* Palibin, *L. dauricum* Ker var. *sanguineum*, *L. martagon* L. ('Album'), *L. pumilum* DC., and *L. umbellatum* Hort.

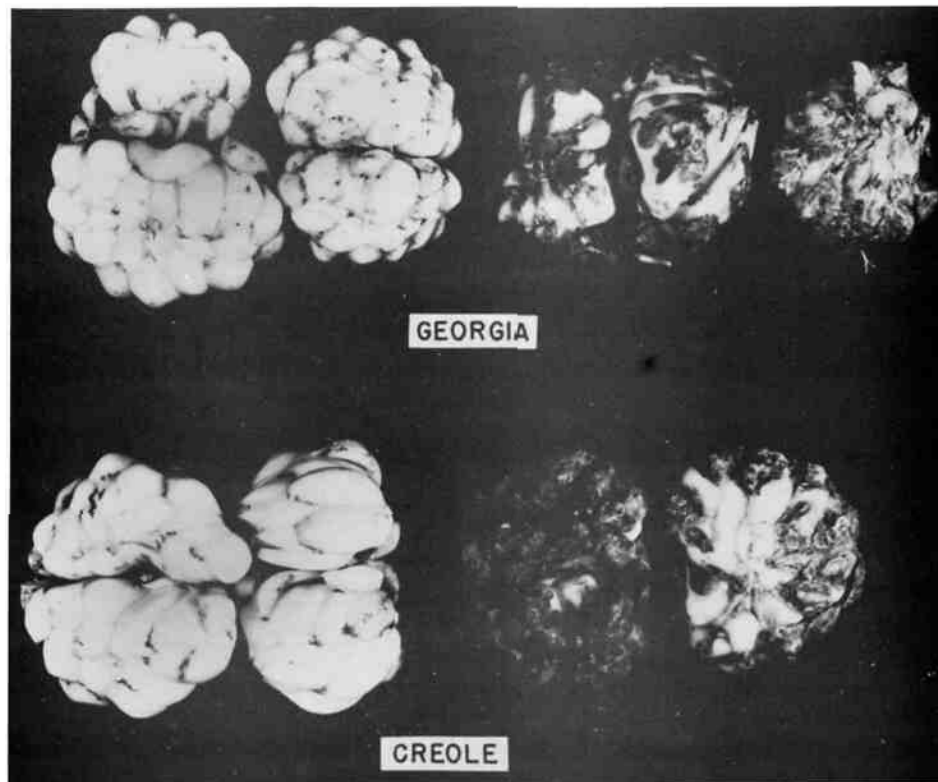


Fig. 1. Healthy (left) and diseased (right) Georgia and Creole Easter lily bulbs.

DISTRIBUTION.--Black scale was known to occur only in Bermuda and Louisiana until recent pathogenicity tests proved its presence in Florida. These

occurrences, however, have been traced directly to bulbs imported from Japan.

Suspected cases of black scale from Alabama, California, China, India, Japan, and Oregon were investigated between 1950 and 1955. In each instance a *Colletotrichum* indistinguishable from *C. lilii* was isolated. Extensive pathogenicity tests proved all isolates incapable of inciting black scale lesions on Easter lily bulbs or on bulbs of the species from which they were originally isolated (2).

DISEASE SYMPTOMS.—Initially lesions are light brown, irregular, slightly depressed, and found mostly on the apical half of the outer scale surface. As the lesions mature, they become dark brown to black and eventually enlarge to cover the entire scale. Severely diseased scales are shriveled due to collapsing epidermal tissue.

Occasionally lesions are found on the underground portion of the stem. These are mostly elongate, irregular, depressed, and light brown to brown in color.

CONTROL.—Bulbs should be dusted with one of the thiram fungicides [bis (dimethylcarbamoyl) disulfide] to prevent infection. Commercial preparations containing thiram include: Arasan, Nomersan, Panoram, Pomasol, Spotrete, Tersan 75, Thylate, TMTD, TMTDS, Tuads, Turf-Tox, and Turf-Tox MC.

Literature Cited

1. Plakidas, A. G. 1944. Black Scale: A disease of Easter lily bulbs. *Phytopathology* 34:556-571.
2. Sobers, E. K. 1958. *Colletotricha* associated with lily bulbs. Their pathogenicity and host range. Ph.D. Dissertation. Louisiana State University, Baton Rouge. 92 p.
3. Sobers, E. K., and A. G. Plakidas. 1962. *Colletotrichums* associated with lily bulbs. *Phytopathology* 52:884-887.